UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,223	11/26/2003	Jean-Francois Savaria	86267-39	5690

7590 04/24/2009

Stephan P. Georgiev
SMART & BIGGAR
Suite 3400
1000 de la Gauchetiere Street West
Montreal, Quebec, H3B 4W5
CANADA

EXAMINER	
CREPEAU, JONATHAN	
ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
04/24/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/721,223	SAVARIA ET AL.	
	Examiner	Art Unit	
	Jonathan Crepeau	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7,9,11-13 and 15-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7,9,11-13 and 15-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/20/09 has been entered.

This Office action addresses claims 1-4, 7, 9, 11-13, and 15-20. The claims are newly rejected under 35 USC 103 as necessitated by amendment. This action is non-final.

Claim Rejections - 35 USC § 103

2. Claims 1-3, 9, 11-13, 15-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-115647 in view of JP 9-259840 in view of Hamada et al (U.S. Patent 5,510,203).

JP '647 is directed to a sealed lead-acid battery comprising a container (1) (rigid structural shell) made of polypropylene and reinforced with discrete metallic flat portions (8, 9) embedded therein (see abstract). The container comprises an opening on the top surface thereof and the battery is covered with a lid (2). Regarding claim 1, as shown in Figure 1, some of the discrete metallic portions are orthogonally interconnected on one side of the container, which structure is capable of functioning to "reinforce a plurality of sides and the end portion of the

rigid structural shell," as claimed. Regarding claims 15 and 16, the lid is "melt-bonded," i.e., welded onto the container (see abstract) and the lid has electrical connections (6) therethrough. Regarding claim 17, the connectors may be considered to be "reinforcement metallic portions" that are "lined at least in part" with the synthetic material of the cover.

JP '647 does not expressly teach that the battery comprises an inner lining substantially impervious to oxygen and humidity, as recited in claim 1.

JP '840 is directed to a lead-acid or alkaline secondary battery (see [0001] of translation). The battery comprises a jar (rigid structural shell) comprising a plastic such as polypropylene (see abstract). A liner made of vinylidene chloride resin is joined to the inner surface of the structural shell (see abstract). The liner is impervious to oxygen and humidity (see [0010]). The liner may further comprise additional layer(s) of synthetic material see [0018]).

Therefore, it is submitted that the artisan would be motivated to use the vinylidene chloride lining of JP '840 in the battery of JP '647. In the abstract, JP '840 teaches that the problem solved by the invention is "to improve gas barrier property" of the sealed secondary battery. Accordingly, the artisan would be motivated to use the vinylidene chloride lining of JP '840 in the battery of JP '647, thereby resulting in the liner being joined onto the inner surface of the shell, as claimed.

JP '647 further does not expressly teach that the discrete metallic portions form a reinforcement wall at the end portion of the rigid structural shell, as recited in claim 1.

Hamada et al. is directed to an alkaline storage battery comprising a resin shell reinforced with ribs (21) on two sides thereof (see Figure 1). Further, the reference teaches that the casing bottom is preferably formed with reinforcing protrusions or recesses (see col. 12, line 29).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to provide discrete metallic reinforcing rib elements on at least two sides and the bottom of the container of JP '647. As shown by the disclosure of Hamada et al., it is known that reinforcing portions such as ribs or protrusions are advantageous to use in conjunction with resin battery cases. Therefore, the skilled artisan would have been motivated to use the discrete metallic portions of JP '647 on each side and the bottom of the container, in order to obtain a greater reinforcing effect on all surfaces thereof. It is further noted that the use of the reinforcing portions of JP '647 on all surfaces of the container represents a duplication of parts that is not considered to be patentably distinguishable over the references since a predictable result (greater reinforcing capability over the whole shell structure) would be obtained. See MPEP 2144.04. Furthermore, the plurality of metallic portions on the bottom surface, taken as a whole, would form a "wall" as recited in claim 1.

Regarding claims 11-13, these claims recite a fastening structure comprised of perforations in the metal and mating projections in the plastic. This structure would be obvious to a person of skill in the art, since the artisan would be sufficiently skilled to join either metal portion (8 or 9) to the polypropylene by any means known, including fastening with perforations. As such, the claimed structure is not seen to patentably distinguish over the references.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-115647 in view of JP 9-259840 in view of Hamada et al. as applied to claims 1-3, 9, 11-13, 15-18, and 20 above, and further in view of Langan et al (U.S. Patent 6,838,209).

Neither JP '647 nor JP '840 expressly teaches that the lining laminate comprises a layer of synthetic material and a layer of metallic material, as recited in claim 4.

In column 2, line 42, et seq., Langan et al. disclose battery packaging material comprising a laminate of a synthetic material and a metal foil.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to incorporate a metal foil into the laminated inner liner of JP '647/JP '840. In column 2, line 65, it is disclosed that the metallic foil is "impervious." Accordingly, since the purpose of this foil is the same as the purpose of the liner of JP '840, it would be obvious to incorporate the metal foil layer into the laminate to further increase imperviousness of the liner.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-115647 in view of JP 9-259840 in view of Hamada et al. as applied to claims 1-3, 9, 11-13, 15-18, and 20 above, and further in view of Kilb (U.S. Patent 5,789,096).

JP '647 does not expressly teach that the shell material is reinforced with carbon or glass additives, as recited in claim 7.

In column 7, lines 29-32, Kilb teaches that a battery casing made of plastic is reinforced with materials including glass and carbon.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because a particular known technique (reinforcing a plastic battery case with glass or carbon) was recognized as part of the ordinary capabilities of one skilled in the art. Further, Kilb teaches that such reinforcement improves the strength properties of the battery case. Accordingly, the artisan would be motivated to incorporate the glass or carbon additive of Kilb into the shell of JP '647.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-115647 in view of JP 9-259840 in view of Hamada et al. as applied to claims 1-3, 9, 11-13, 15-18, and 20 above, and further in view of Yamazaki et al (U.S. Pre-Grant Publication No. 2004/0029001).

JP '647 does not expressly teach that the shell is made of epoxy or urethane, as recited in claim 19.

In [0783], Yamazaki et al. teach that a hard outer battery case (51a) can be made of polypropylene or polyurethane, among other resins.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the substitution of one known element (polyurethane of Yamazaki et al.) for another (polypropylene of JP '647) would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Accordingly, the subject matter of claim 19 would be rendered obvious.

Response to Arguments

6. Applicant's arguments filed April 20, 2009 have been fully considered but they are not persuasive insofar as they apply to the present rejections. Applicants state that "JP '647 fails to disclose, teach or suggest discrete metallic flat portions being orthogonally interconnected to simultaneously reinforce a plurality of sides and the end portion of the container and to form a reinforcement wall at the end portion of the container." However, for the reasons stated above, this subject matter is rendered obvious by the now-applied references.

Additionally, it is noted that a certified translation of JP 62-115647 has been ordered and will be made available upon request or in the next Office communication.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jonathan Crepeau/
Primary Examiner, Art Unit 1795
April 23, 2009